



# *National Centers for Environmental Prediction:*

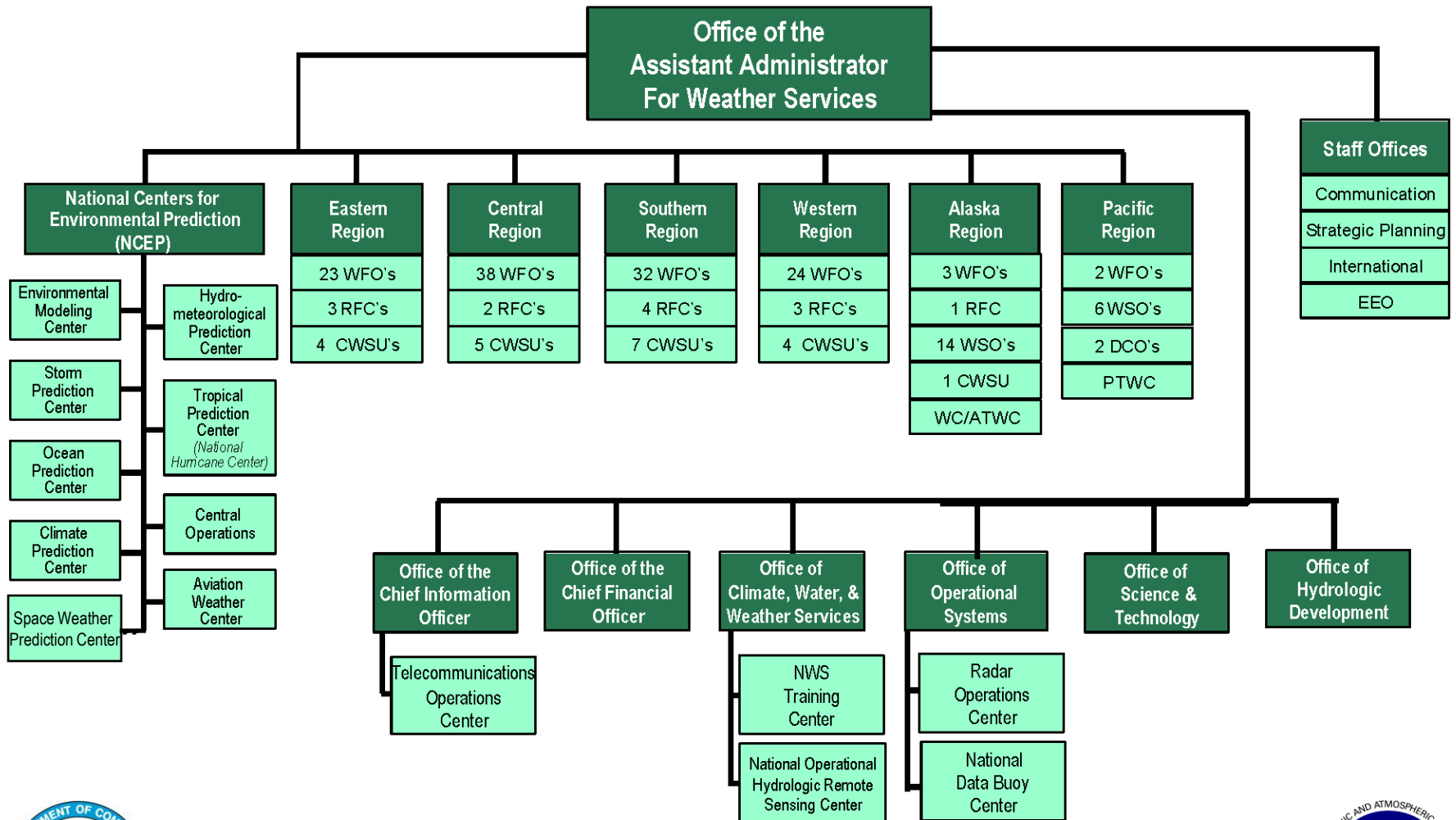
---

## *An Overview*



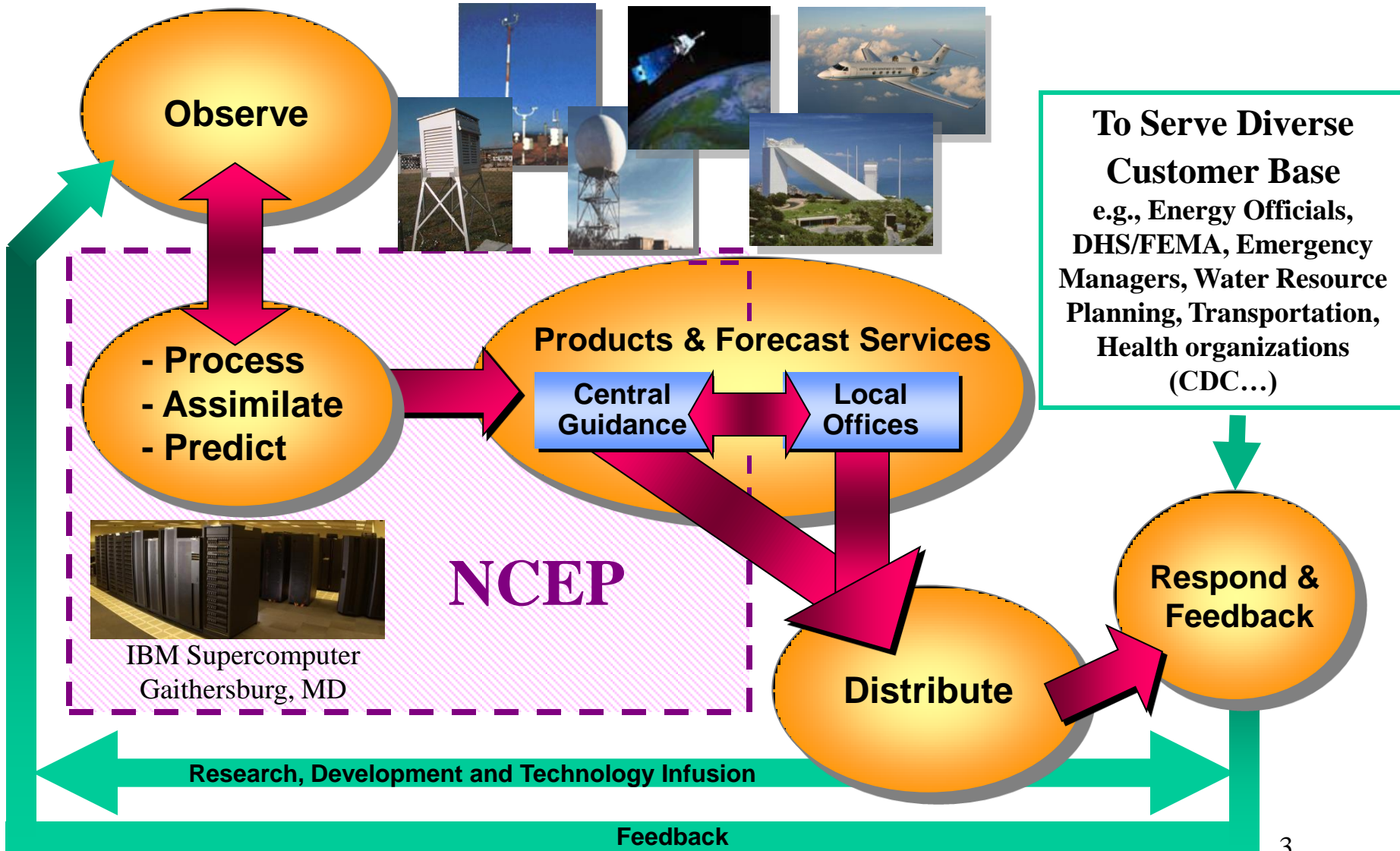
*“Where America’s Climate, Weather and Ocean Services Begin”*

# Organizational Chart for the National Weather Service





# The Path to NOAA's Seamless Suite of Products and Forecast Services



*Prediction is now inherently linked to numerical models*

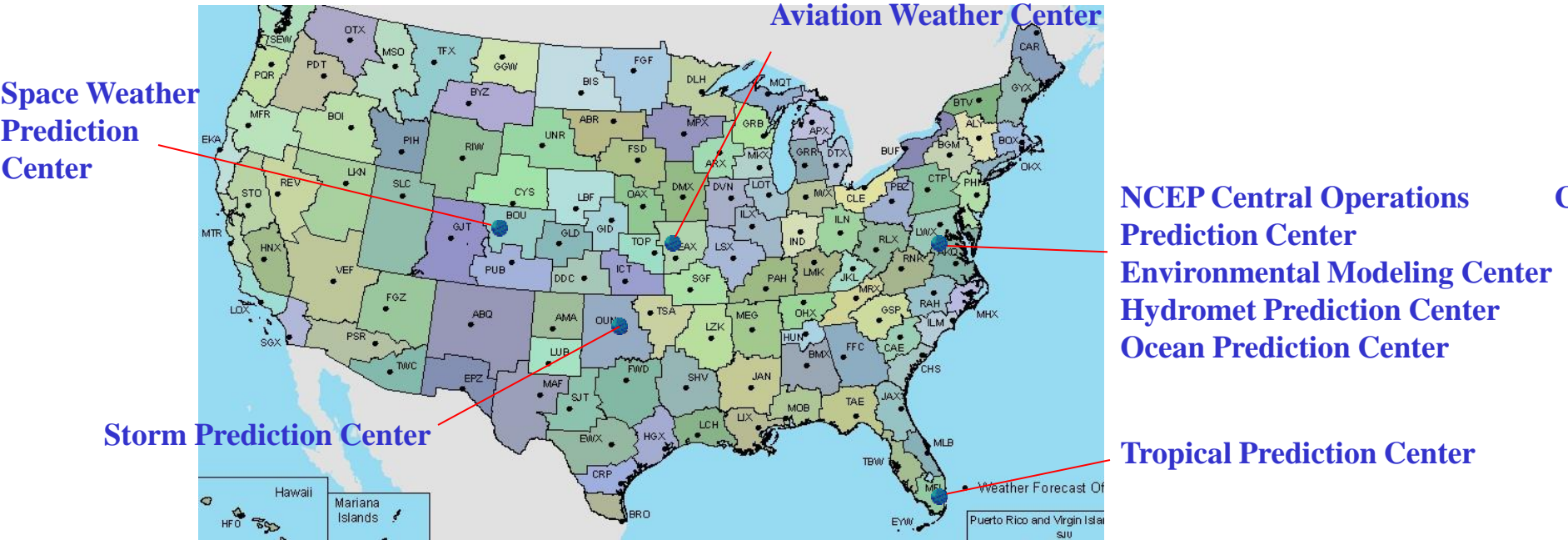


# NCEP Supports the NOAA Seamless Suite of Climate Weather and Ocean Products



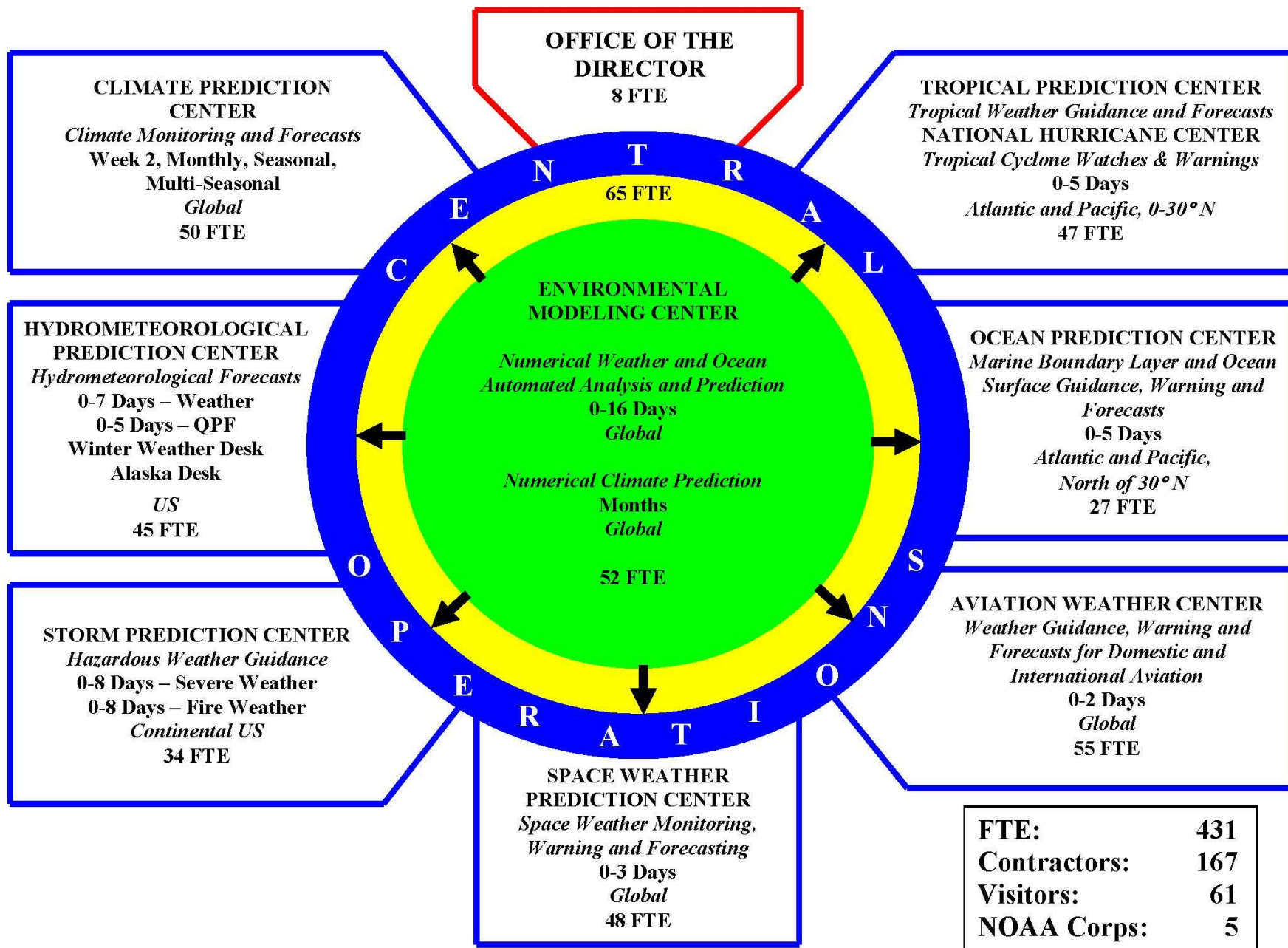
**Organization:** Central component of NOAA National Weather Service

**Mission:** NCEP delivers science-based environmental predictions to the nation and the global community. We collaborate with partners and customers to produce reliable, timely, and accurate analyses, guidance, forecasts and warnings for the protection of life and property and the enhancement of the national economy.



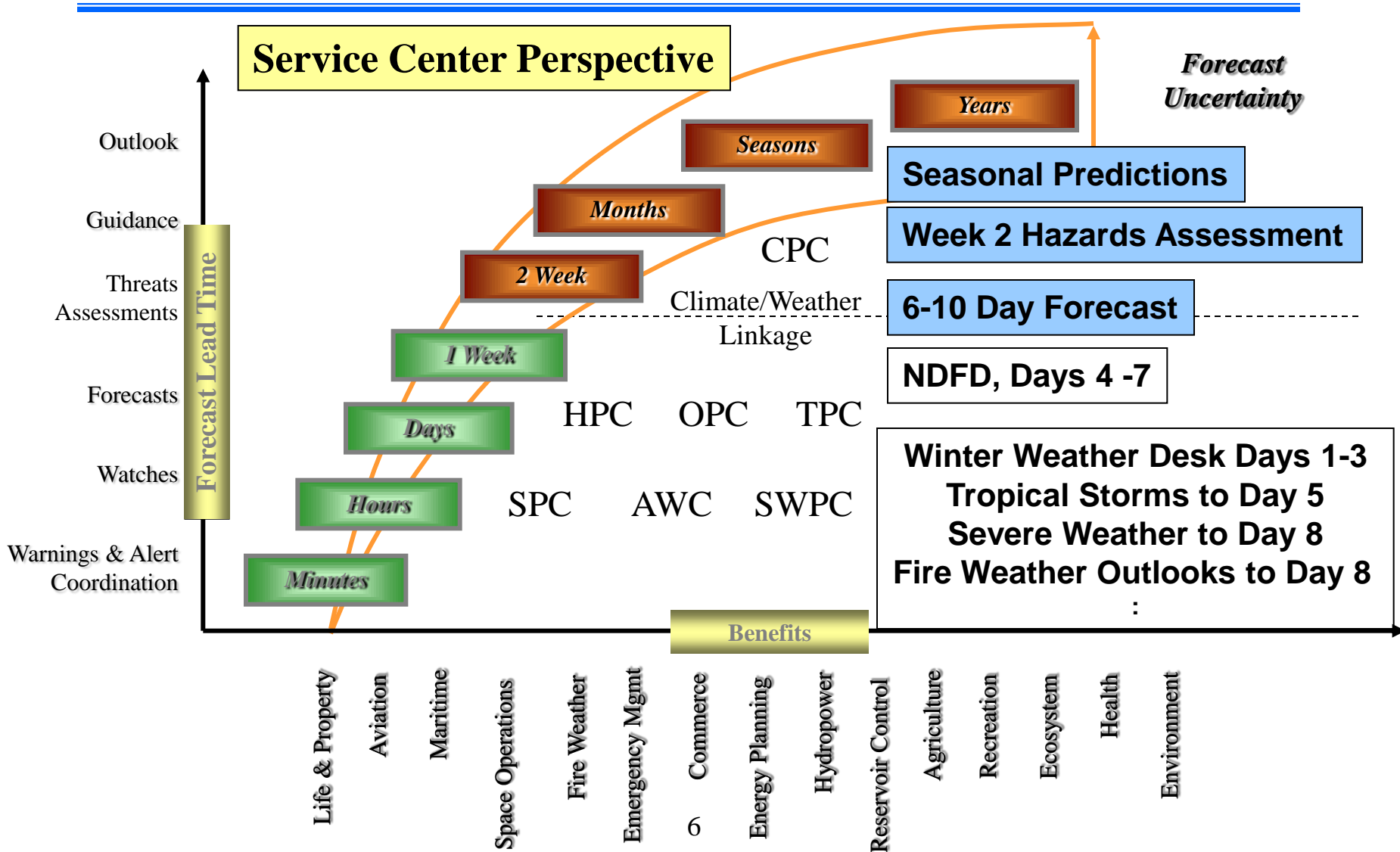
**Vision:** The Nation’s trusted source, first alert and preferred partner for environmental prediction services

# NATIONAL CENTERS for ENVIRONMENTAL PREDICTION





# NOAA Seamless Suite of Forecast Products Spanning Climate and Weather





# Test Beds



## Service – Science Linkage with the Outside Community

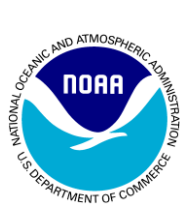
---

- EMC            WRF Developmental Test Center,  
                  NASA/ NOAA/DoD Joint Center for Satellite  
                  Data Assimilation
- CPC            Climate Test Bed
- TPC            Joint Hurricane Test Bed
- HPC            Hydrometeorological Test Bed
- SPC            Hazardous Weather Test Bed with NSSL
- SWPC          Space Weather Prediction Test Bed with AFWA
- AWC            Aviation Weather Test Bed
- OPC            linked with EMC's Marine Modeling and  
                  Analysis Branch



# What Does NCEP Do?

## “From the Sun to the Sea”

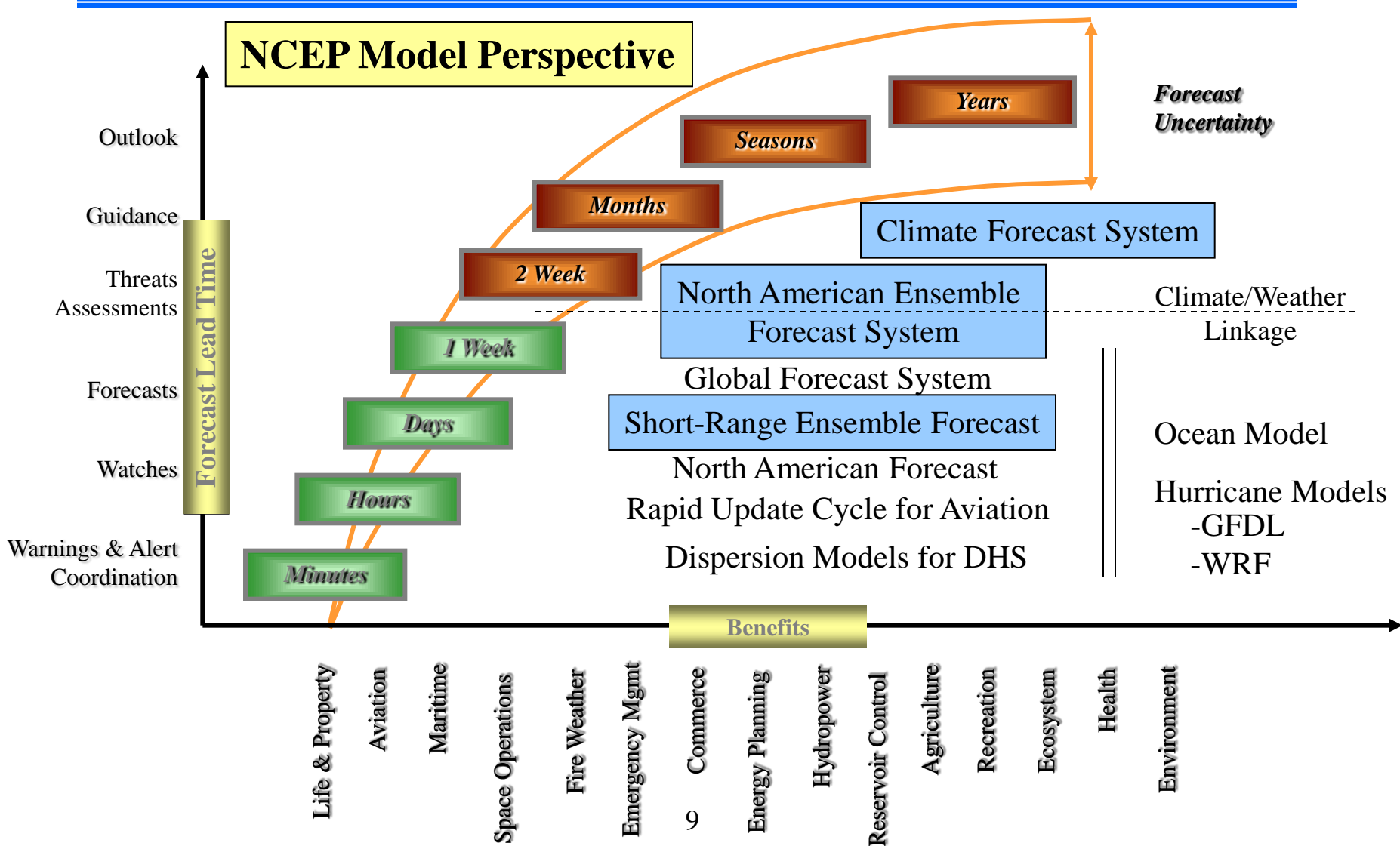


- Solar Monitoring, Warnings and Forecasts
  - Climate Forecasts: Weekly to Seasonal to Inter-annual
  - El Nino – La Nina Forecast
  - Weather Forecasts to Day 7
  - Hurricanes, Severe Weather, Snowstorms, Fire Weather
  - Aviation Forecasts and Warnings
  - Offshore and High Seas Forecasts and Warnings
- 
- Model Development, Implementation and Applications for Global and Regional Weather, Climate, Oceans and now Space Weather
  - International Partnerships in Ensemble Forecasts
  - Data Assimilation including the Joint Center for Satellite Data Assimilation
  - Super Computer, Workstation and Network Operations



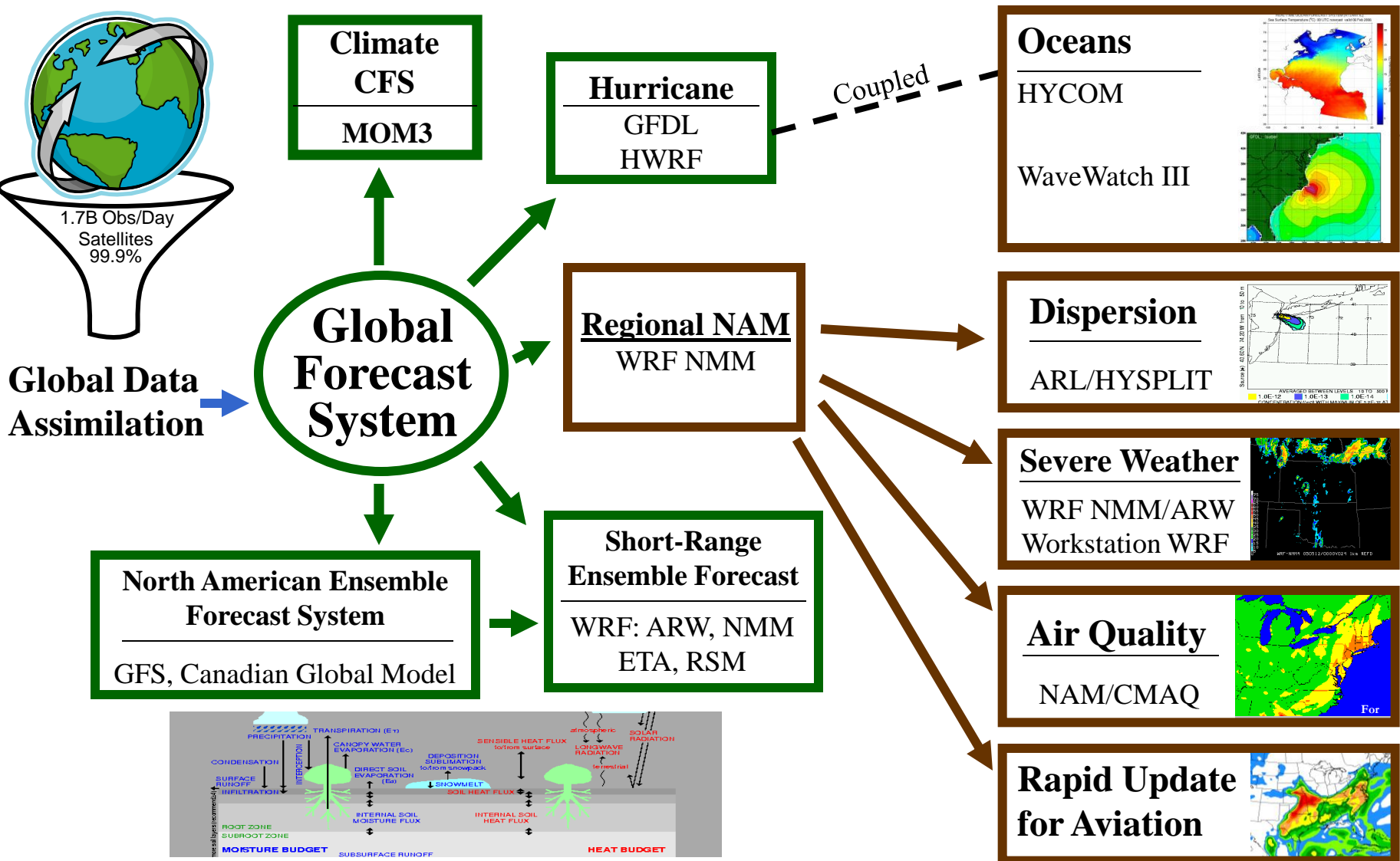


# NWS Seamless Suite of Forecast Products Spanning Climate and Weather





# NOAA's NWS Model Production Suite





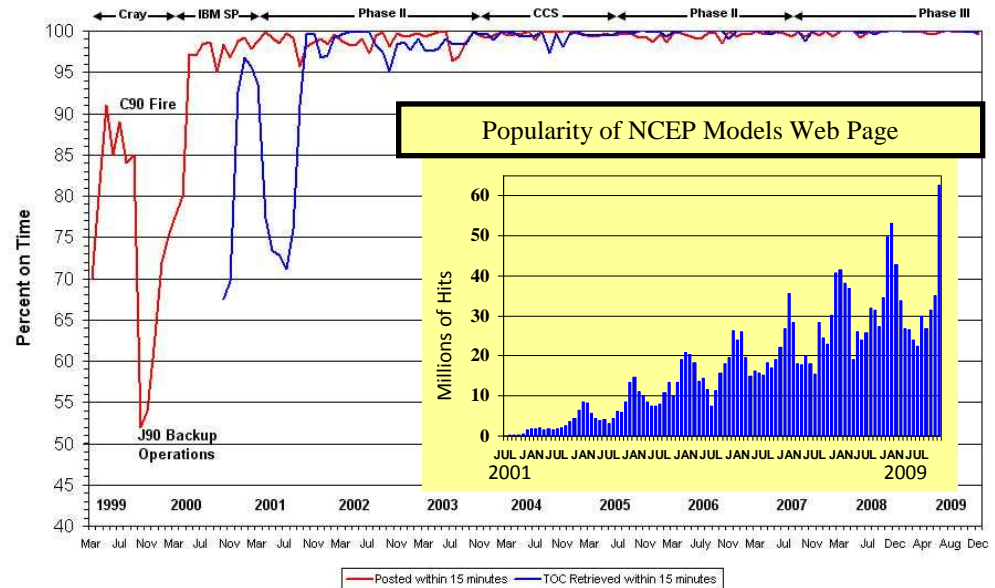
# Computing Capability



- Transition to IBM Power 6 complete
  - Declared operational August 12, 2009
  - 69.7 trillion calculations/sec
  - Factor of 4 increase over the IBM Power5
  - 4,992 processors
  - 20 terabytes of memory
  - 330 terabytes of disk space
  - 1.7 billion observations/day
  - 27.8 Million model fields/day
- Primary: Gaithersburg, MD
- Backup: Fairmont, WV
  - Guaranteed switchover in 15 minutes
  - Web access to models as they run on the CCS



### Product Generation Summary





# Summary



- NCEP is
  - Strategically aligned with NOAA’s “seamless suite” of products from the “Sun to the Sea”
  - Dependent on NOAA programmatic support to succeed
  - Working with NOAA on expanded responsibilities (e.g, oceans air and water quality, ecology, space weather...); success is based on interdisciplinary approach
  - A critical transition agent in the NOAA “research to operations” process involving observations, data assimilation, modeling, and service delivery
  - Actively pursuing opportunities for collaboration in research, transition to operations and operational production and delivery of services

